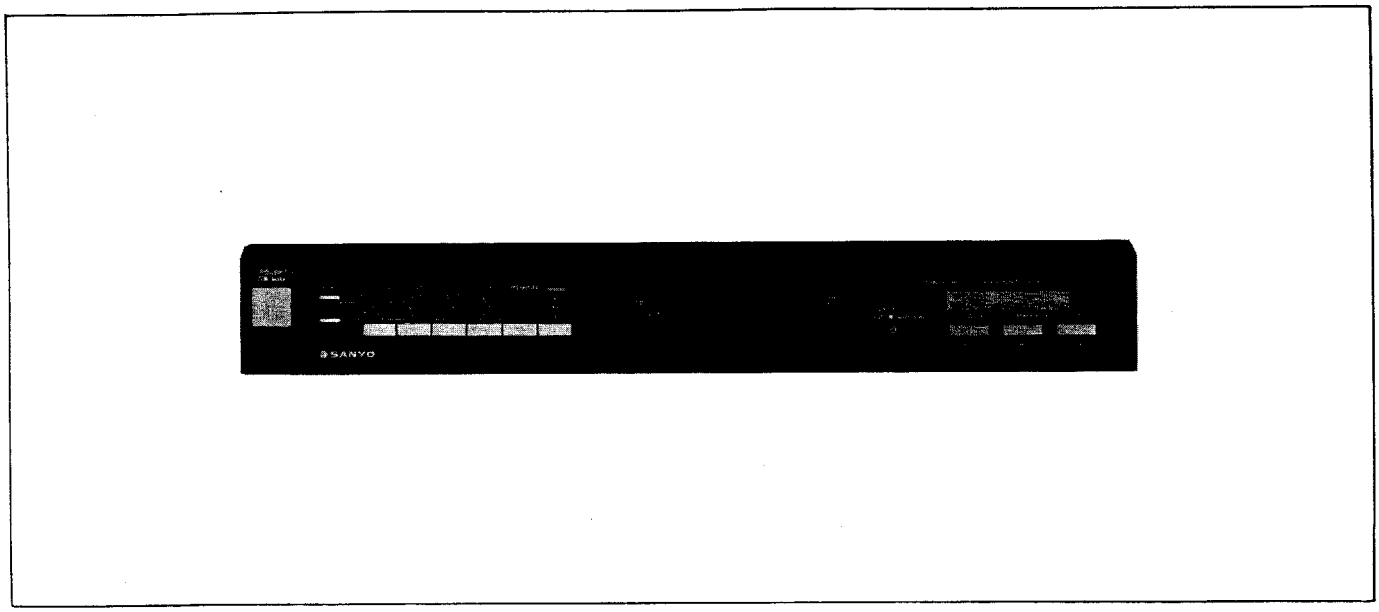
SERVICE MANUAL

AM/FM STEREO TUNER

SANYO

JT 366L

(EUROPE)



SPECIFICATIONS

NOTE:
The below mentioned specifications are mainly based on the IHF measurements standard. They can therefore not directly be compared with specifications based on the DIN standard or other standards.

FM section:

Frequency range	87.5 – 108 MHz (0.05 MHz steps)
Usable sensitivity	2.0 μV (mono)
Signal to noise ratio (1 mV ANT.)	75 dB (mono)
Harmonic distortion (1 kHz)	0.5% (mono)
Frequency response	30 Hz – 15 kHz (+1/–3 dB)
Stereo separation (1 kHz)	40 dB
Aerial input	75 ohms unbalanced

AM (MW/LW) section:

Frequency range	MW: 522 – 1611 kHz (9 kHz steps) LW: 153 – 360 kHz (1 kHz steps)
Sensitivity	MW: 500 μV/m, LW: 1000 μV/m
Signal to noise ratio (5 mV/m)	MW: 40 dB

General:

Power requirements	DC: 12V, 300 mA (from JA 366 or JA 566)
Dimensions (W x D x H)	Approx. 420 x 200 x 61 mm (16-1/2" x 7-7/8" x 2-3/8")
Weight	Approx. 1.7 kg (3 lbs. 12 ozs.)

Specifications subject to change without notice.

ADJUSTMENT

GENERAL ADJUSTMENT CONDITION

1. DC voltage is 12V and input 2.7Ω(1W) to series.
2. Use a screw driver with plastic grip for all adjustment.
3. Signal input must be kept as low as possible to avoid overload.
4. Use an output meter of the highest possible sensitivity.

(1) FM Band

- Set BAND switch in the FM position.

* FM-SG: Standard modulation frequency, 1,000Hz; frequency deviation, ±40kHz dev.

ADJUSTING CIRCUIT		FREQUENCY INDICATED POSITION	INPUT CONDITION			OUTPUT CONDITION		ADJUSTING POINT	ADJUSTING PROCEDURE
			MEASURING INSTRUEMNT	FREQUENCY	CONNECT POINT	MEASURING INSTRUMENT	CONNECT POINT		
I.F.	V-curve	Lower limit	FM sweep Generator	10.7MHz (nonmodulation)	FM ANT (H) (75Ω Direct) TERMINAL (E)	VTVM Oscilloscope	TP11 (H) TP12 (E)	T201	• Metch to the frequency of ceramic filter. • Adjust so that the symmetrical wave form becomes the maximum.
	S-curve	Lower limit	FM sweep Generator	10.7MHz (nonmodulation)	FM ANT (H) (75Ω Direct) TERMINAL (E)	VTVM Oscilloscope	TP13 (H) TP12 (E)	T202	• Match to the frequency of ceramic filter. • Adjust so that the symmetrical wave form becomes the maximum.
Covering frequency	HIGH	108.0MHz (High end)				Digital Voltmeter	TP1 (H) TP2 (E)	L104	• Adjust so that the digital voltmeter indication becomes $8.0^{+0.1}_{-0}$ V.
	LOW	87.5MHz (Low end)				Digital voltmeter	TP1 (H) TP2 (E)		• Confirm so that the digital voltmeter indication becomes approx. 1.3~1.5V.
Tracking frequency	LOW	90.0MHz	FM-SG	90.0MHz 10dB	FM antenna terminal (75Ω Direct)	VTVM Oscilloscope	Output plug	L101 L102	• Adjust so that the output wave form becomes the maximum.
	HIGH	106.0MHz	FM-SG	106.0MHz 10dB	FM antenna terminal (75Ω Direct)	VTVM Oscilloscope	Output plug	CT101	• Adjust so that the output wave form becomes the maximum.
I. F. (distortion factor)		98.0MHz	FM-SG	98.0MHz 66 dB	FM antenna terminal (75Ω Direct)	Digital voltmeter	TP5 (H) *TP6 (E)	T202	• Tune exactly, and adjust so that the digital voltmeter indication becomes 0 ± 20mV.
Tuning Indicator		98.0MHz	FM-SG	98.0MHz 20 dB	FM antenna terminal (75Ω Direct)	Set proper		SVR201	• Adjust so that the LED for tuning light out.
VCO (19kHz)		98.0MHz	FM-SG	98.0MHz 66dB (nonmodulation)	FM antenna terminal (75Ω Direct)	VTVM Oscilloscope Counter	TP9 (H) TP10 (E)	SVR302	• Turn SVR302 to the position where the STEREO indicator lights up, and stop it there, • Tune exactly, and adjust so that the counter value becomes 19.00 ± 0.03 kHz.
Separation (Stereo mode)		98.0MHz	FM-SG STEREO MODULATOR	98.0MHz 66dB	FM antenna terminal (75Ω Direct)	VTVM Oscilloscope	Output plug	SVR301	• Adjust so that the leakage currents of the right and left channels are minimized in good balance.

* Non Earth

STEREO MODULATOR: Frequency deviation Main signal — ± 40kHz dev.
Pilot signal — ± 6.75kHz dev.

(2) MW Band

- Set BAND switch in the MW position.

* AM-SG: Standard modulation frequency, 400Hz; percentage 30% modulation.

ADJUSTING CIRCUIT		FREQUENCY INDICATED POSITION	INPUT CONDITION			OUTPUT CONDITION		ADJUSTING POINT	ADJUSTING PROCEDURE
			MEASURING INSTRUMENT	FREQUENCY	CONNECT. POINT	MEASURING INSTRUMENT	CONNECT. POINT		
I. F.		Lower limit	AM sweep Generator	450kHz nonmodulation	AM EXT-ANT TERMINAL Ⓗ Ⓔ	VTVM Oscilloscope	TP3 Ⓗ TP4 Ⓔ	T151	• Match to the frequency of ceramic filter. • Adjust so that the symmetrical wave form becomes the maximum.
Covering frequency	LOW	522kHz (Low end)				Digital voltmeter	TP1 Ⓗ TP2 Ⓔ	L152	• Adjust so that the digital voltmeter indication becomes $1.2^{+0.05}_{-0}$ V.
	HIGH	1611kHz (High end)				Digital voltmeter	TP1 Ⓗ TP2 Ⓔ	CT152	• Adjust so that the digital voltmeter indication becomes $8^{+0.05}_{-0}$ V.
Tracking frequency	LOW	603kHz	AM-SG	603kHz 75dB	IRE loop antenna	VTVM Oscilloscope	Output plug	L151	• Adjust so that the output value becomes the maximum.
	HIGH	1404kHz	AM-SG	1404kHz 75dB	IRE loop antenna	VTVM Oscilloscope	Output plug	CT151	• Adjust so that the output value becomes the maximum.
Signal Indicator		999kHz	AM-SG	999kHz 80dB	IRE loop antenna	Set proper		SVR151	• Adjust so that the LED signal lights out.

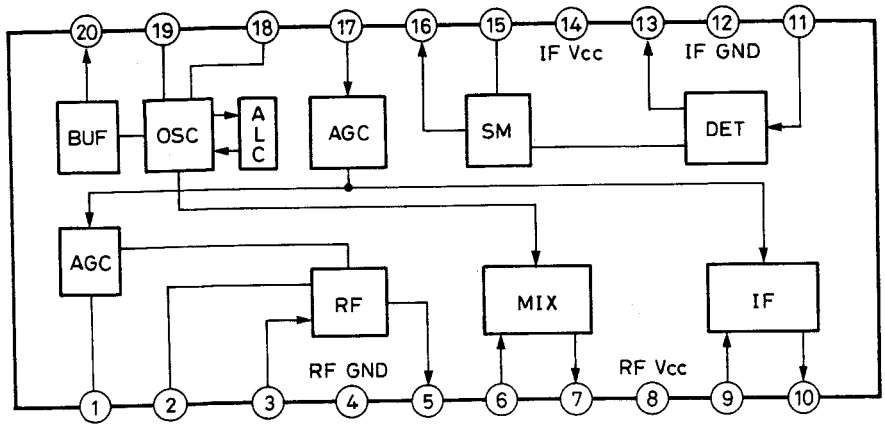
(3) LW Band

- Set BAND switch in the LW position.

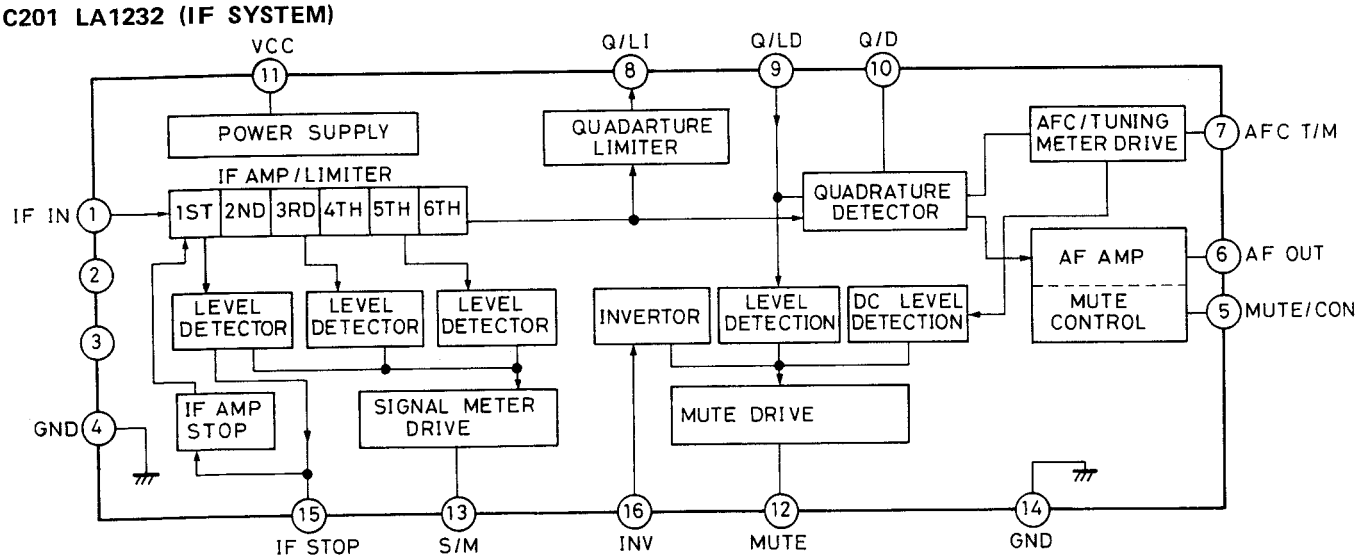
ADJUSTING CIRCUIT		FREQUENCY INDICATED POSITION	INPUT CONDITION			OUTPUT CONDITION		ADJUSTING POINT	ADJUSTING PROCEDURE
			MEASURING INSTRUMENT	FREQUENCY	CONNECT. POINT	MEASURING INSTRUMENT	CONNECT. POINT		
Covering frequency	LOW	153kHz (Low end)				Digital voltmeter	TP1 Ⓗ TP2 Ⓔ	L154	• Adjust so that the digital voltmeter indication becomes $1.6^{+0.05}_{-0}$ V.
	HIGH	360kHz (High end)				Digital voltmeter	TP1 Ⓗ TP2 Ⓔ	CT154	• Adjust so that the digital voltmeter indication becomes $8^{+0.05}_{-0}$ V.
Tracking frequency	LOW	160kHz	AM-SG	160kHz 80dB	IRE loop antenna	VTVM Oscilloscope	Output terminal	L153	• Adjust so that the output value becomes the maximum.
	HIGH	340kHz	AM-SG	340kHz 80dB	IRE loop antenna	VTVM Oscilloscope	Output terminal	CT153	• Adjust so that the output value becomes the maximum.

IC BLOCK DIAGRAM

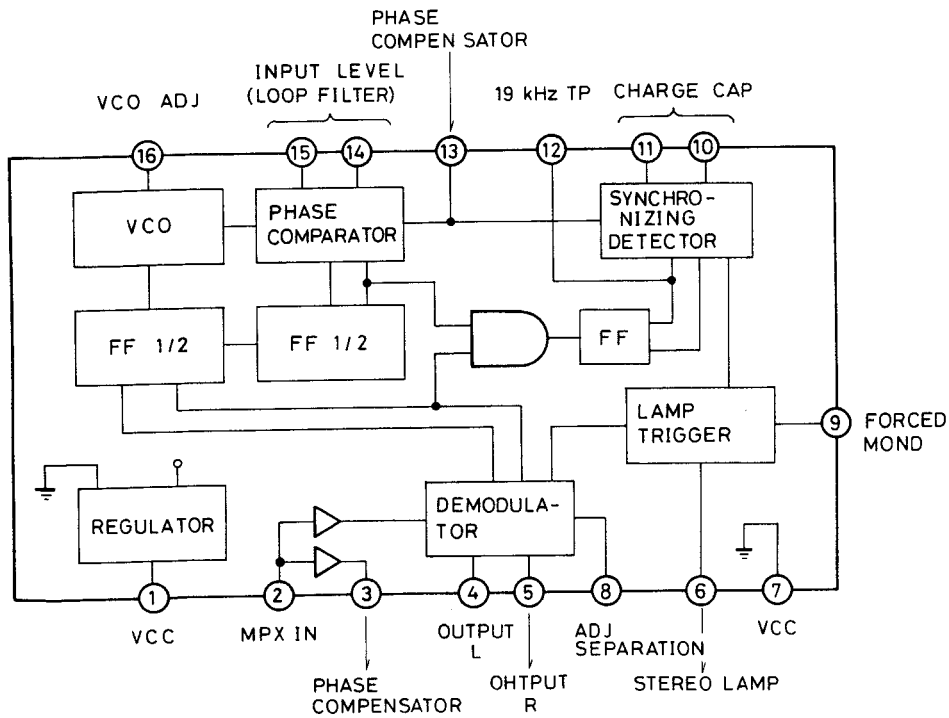
IC151 LA1245 (AM TUNER SYSTEM)



IC201 LA1232 (IF SYSTEM)

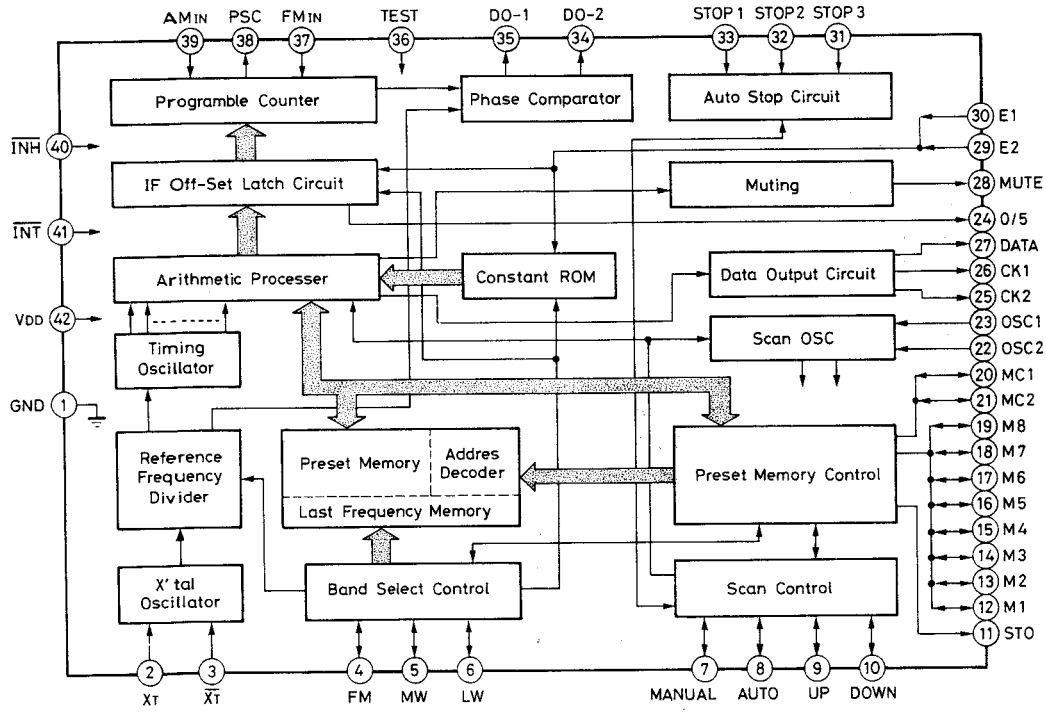


IC301 LA3361 (FM PLL-MPX STEREO DEMODULATOR)

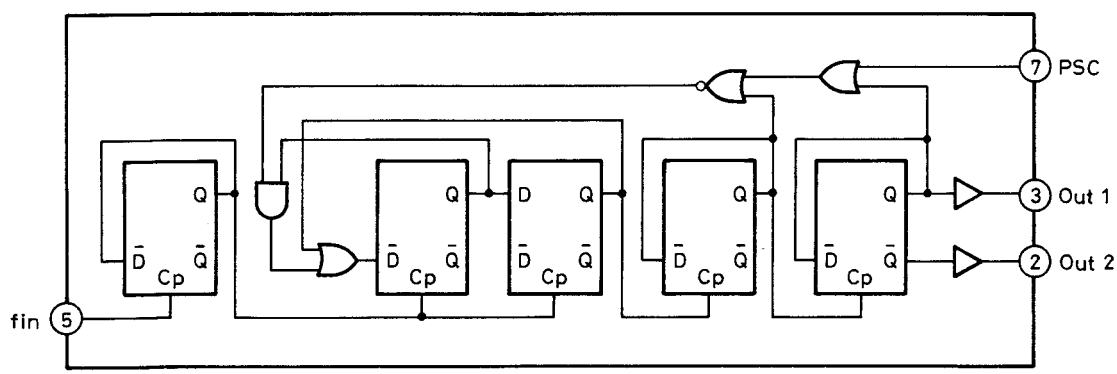


IC BLOCK DIAGRAM

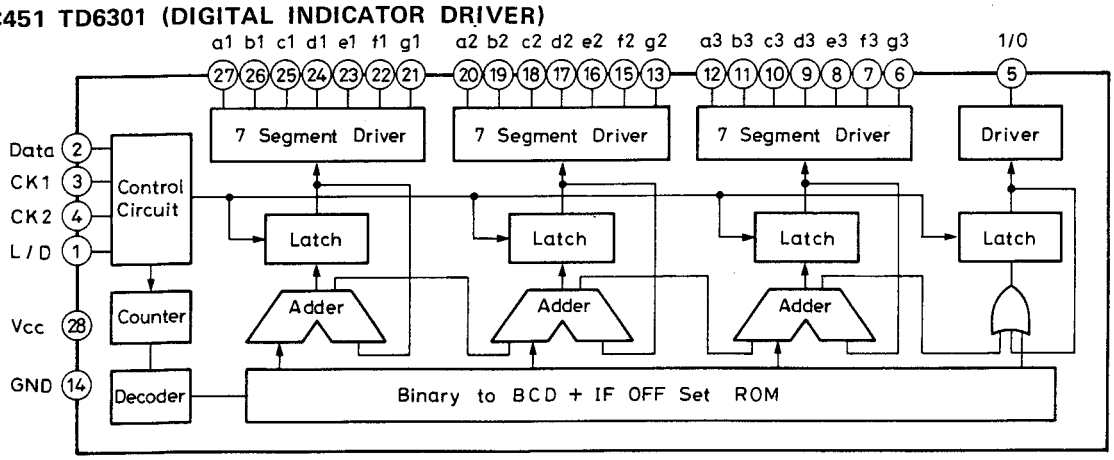
IC401 TC9147 (DIGITAL TUNING SYSTEM)



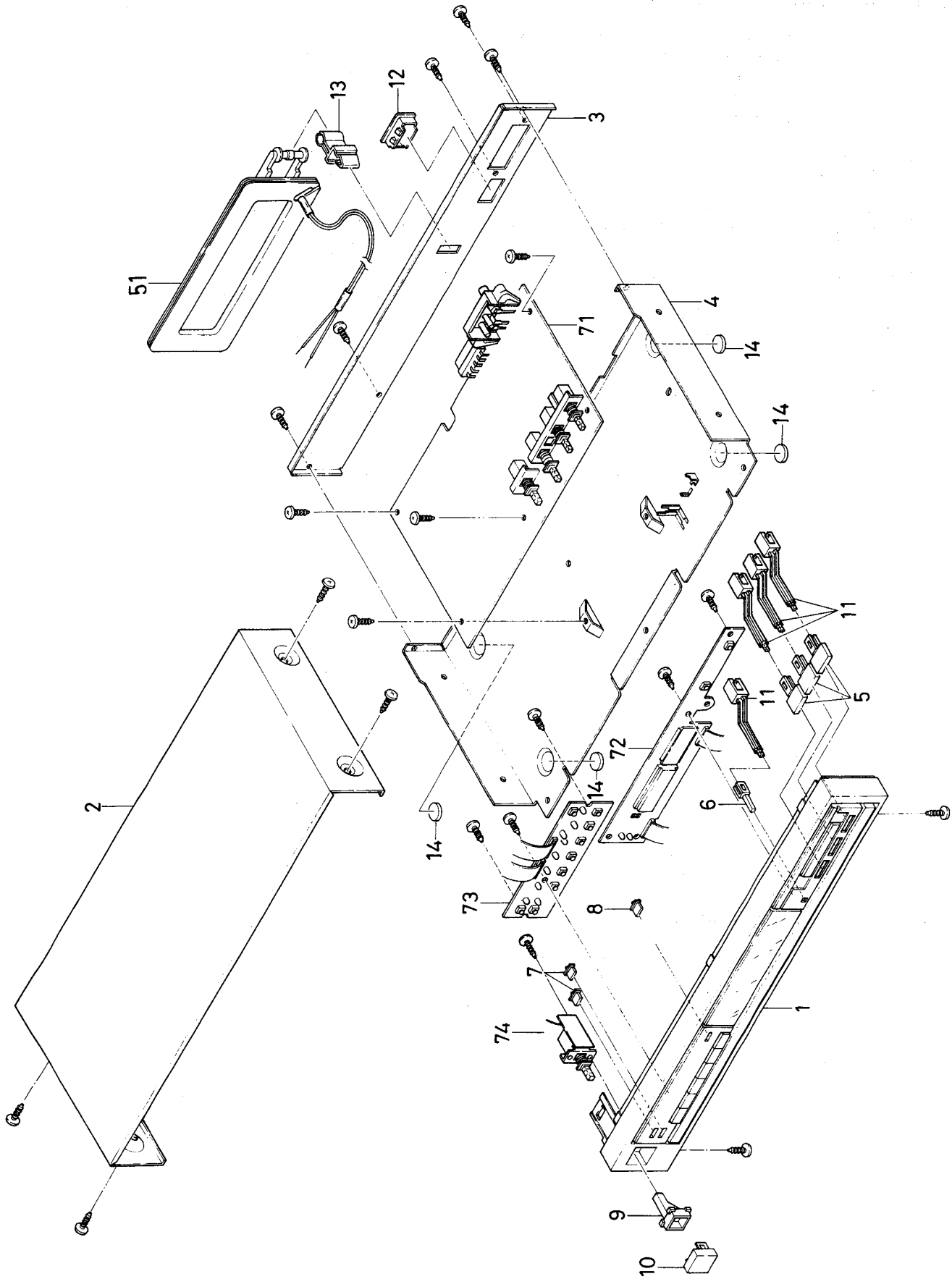
IC402 TD6104 (FM PRE-SCALER)



IC451 TD6301 (DIGITAL INDICATOR DRIVER)



EXPLODED VIEW



PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.
Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

NOTE:
* Materials of Capacitors and Resistors are abbreviated as follows;

AL ELECT .....Aluminum Electrolytic
BC CON .....Semiconductor Ceramic
CHIP BC .....Chip Semiconductor Ceramic
CHIP TAN .....Chip Tantal
ELECT .....Electrolytic
PP CON .....Polypropylene
MT GLAZE .....Metal Glaze
FP CARBON .....Flameproof Carbon

NOTE: (IT) → ITARY

* Tolerance of Capacitors and Resistors are noted with follow symboles;

J .....±5%
K .....±10%
M .....±20%
N .....±30%
P .....+100−0%
Q .....+30−10%
Z .....+80−20%

PACKING & ACCESSORIES

Ref. No.	Part No.	Description
	141-6-133T-71900	INNER CORR CASE
	141-6-133T-71901	INNER CORR CASE (IT)
	141-6-145T-10500	FOAM PLASTIC CASE
	141-6-235T-35501	INNER POLEY LAMINA COVER, SET
or	141-6-235T-35506	INNER POLEY LAMINA COVER, SET
	141-6-231T-20300	INNER POLYE COVER, ACCESSORY
	141-6-409T-24100	INST MANUAL
	141-6-409T-24101	INST MANUAL (IT)
	141-6-415T-23500	NOTICE, NORWAY
	141-6-415T-32301	NOTICE, NEW FTZ
	4-245T-00700	ANT, FM

CABINET & CHASSIS

Ref. No.	Part No.	Description
1	141-0-122T-60801	FRONT PANEL ASSY
	BJB2S++3+8+Z1	BIND HD 2 TAPPING SCREW 3X8
2	141-2-111T-67600	CABINET
	BJB2S++3+8+ZK	BIND HD 2 TAPPING SCREW 3X8 ZK
3	141-2-119T-04700	BACK PANEL
	141-2-119T-04701	BACK PANEL (IT)
	BJB2S++3+8+Z1	BIND HD 2 TAPPING SCREW 3X8, BOTTOM LID
	BJB2S++3+8+Z1	BIND HD 2 TAPPING SCREW 3X8, ANT
4	141-2-125T-39200	BOTTOM LID
5	141-2-160T-60300	PUSH BUTTON, BAND
6	141-2-160T-60830	PUSH BUTTON, MODE/TUN
7	141-2-160T-61900	PUSH BUTTON, PRE-SET
8	141-2-160T-61930	PUSH BUTTON, MEMORY
9	141-2-160T-60500	PUSH BUTTON, POWER SW
10	141-2-156T-37900	CUP KNOB, POWER SW
11	141-2-253T-18600	JOINT, SWITCH
12	141-2-210T-70900	BRACKET, OUTPUT & POWER SOURCE
13	141-2-210T-70801	BRACKET, LOOP ANT
14	141-2-174T-13100	STAND
or	141-2-174T-13102	STAND

ELECTRICAL PARTS

Ref. No.	Part No.	Description
51	4-269T-00101	LOOP ANT ASSY, AM

TUNER MAIN PCB ASSY

Ref. No.	Part No.	Description
71	141-4-285T-20101	P.C.BOARD ASSY, TUNER MAIN
	BJB2S++3+8+Z1	BIND HD 2 TAPPING SCREW 3X8
	141-2-322T-18900	SHIELD PLATE, PARTS SIDE
	141-2-322T-72100	SHIELD PLATE, SOLDER SIDE
	141-2-322T-57300	SHIELD PLATE, LID
	141-2-382T-22700	TERMINAL, EXT-ANT (JK1)
CT101	4-224R-11600	TRIMMER
CT151	4-224T-15500	TRIMMER
or	4-224T-15571	TRIMMER
CT152	4-224T-15500	TRIMMER
or	4-224T-15571	TRIMMER
CT153	4-224T-15400	TRIMMER
or	4-224T-15471	TRIMMER
CT154	4-224T-15400	TRIMMER
or	4-224T-15471	TRIMMER
T151	4-256T-26440	IFT
T201	4-256T-35040	IFT
T202	4-256T-33640	IFT
L101	4-265T-58830	VHF COIL
L102	4-265T-63430	VHF COIL
L103	4-253T-15012	FILTER
L104	4-265T-57244	VHF COIL
L105	4-265R-00200	VHF COIL
L106	4-253T-15020	FILTER
L151	4-257T-70140	ANT COIL
L152	4-258T-44640	OSC COIL
L153	4-257T-71240	ANT COIL
L154	4-258T-49540	OSC COIL
L156	4-253T-15037	FILTER
L301	4-253T-15020	FILTER
L302	4-253T-15020	FILTER
L401	4-253T-15020	FILTER
L402	4-253T-15020	FILTER
BPF101	4-253T-18840	FILTER
LPF201	4-255T-06146	MX COIL
X151	4-256T-83772	IF FILTER
X201	4-256T-84500	IF FILTER

PARTS LIST

Ref. No.	Part No.	Description
X202	4-256T-84500	IF FILTER
X203	4-256T-84500	IF FILTER
X401	4-225T-06200	CRYSTAL
S101	4-248T-10800	SWITCH, BAND (WITH MUTE)
S102	4-238T-39400	SWITCH, MODE/TUN
SVR151	4-220T-19474	SEMI-FIXED VR, 5K OHM (B)
or	4-222T-97574	SEMI-FIXED VR, 5K OHM (B)
SVR201	4-220T-19475	SEMI-FIXED VR, 10K OHM (B)
or	4-222T-97575	SEMI-FIXED VR, 10K OHM (B)
SVR301	4-220T-19472	SEMI-FIXED VR, 1K OHM (B)
or	4-222T-97572	SEMI-FIXED VR, 1K OHM (B)
SVR302	4-220T-19475	SEMI-FIXED VR, 10K OHM (B)
or	4-222T-97575	SEMI-FIXED VR, 10K OHM (B)
CN1	4-240T-83576	SOCKET 6P
CN3	4-240T-83575	SOCKET 5P
CN5	4-240T-83576	SOCKET 6P
CN7	4-240T-83576	SOCKET 6P
CN9	4-240T-83573	SOCKET 3P
P1	4-236T-21073	PLUG 5P, OUTPUT & POWER SOURCE
TP201	4-237T-00100	TERMINAL BOARD
TP202	4-237T-00100	TERMINAL BOARD
TP301	4-237T-00100	TERMINAL BOARD
IC151	SILA1245+++++	IC LA1245 DIP20
IC201	SILA1232+++++	IC LA1232 DIP16
IC301	SILA3361+++++	IC LA3361 DIP16
IC401	SITC9147P++++	IC TC9147P DIP42
IC402	SITD6104P++++	IC TD6104P DIP07
Q101	SF2K212+++F++	FET 2SK212 F
Q102	STC2999E++++T	TR 2SC2999 E T
Q104	STC930+D+++C1	TR 2SC930 D CONV SP
Q105	STC2999E++++T	TR 2SC2999 E T
Q106	SF2K212+++F++	FET 2SK212 F
Q151	STC1740S++++B	TR 2SC1740 S B SP
Q152	SF2K222+++F++	FET 2SK222 F
Q153	STC1740S++++B	TR 2SC1740 S B SP
Q201	STC2999E++++T	TR 2SC2999 E T
Q202	STC1740S++++B	TR 2SC1740 S B SP
Q203	STC1740S++++B	TR 2SC1740 S B SP
Q204	STC1740S++++B	TR 2SC1740 S B SP
Q301	STC1740S++++B	TR 2SC1740 S B SP
Q302	STC1740S++++B	TR 2SC1740 S B SP
Q303	STC3330U++++T	TR 2SC3330 U T
Q304	STC3330U++++T	TR 2SC3330 U T
Q351	STA933+S++++B	TR 2SA933 S B SP
Q352	STC1740S++++B	TR 2SC1740 S B SP
Q401	SF2K222+++D++	FET 2SK222 D
Q402	STC1571F+++++	TR 2SC1571 F
Q403	STC1740S++++B	TR 2SC1740 S B SP
Q404	STC1740S++++B	TR 2SC1740 S B SP
Q405	STC1740S++++B	TR 2SC1740 S B SP
Q406	STC1740S++++B	TR 2SC1740 S B SP
Q407	STC1740S++++B	TR 2SC1740 S B SP
Q901	STA933+S++++B	TR 2SA933 S B SP
Q902	STA933+S++++B	TR 2SA933 S B SP
Q903	STC1740S++++B	TR 2SC1740 S B SP
Q904	STC1740S++++B	TR 2SC1740 S B SP
D101	SCSVC211B+++1	VARACTOR DIODE SVC211B SP
D102	SCSVC211B+++1	VARACTOR DIODE SVC211B SP
D103	SCSVC211B+++1	VARACTOR DIODE SVC211B SP
D104	SDDS442+X+++T	DIODE DS442 X
D151	SCKV1236Z2+++	VARACTOR DIODE KV1236 Z2
D152	SCKV1236Z2+++	VARACTOR DIODE KV1236 Z2
D153	SDGMA01+++++T	DIODE GMA01
D154	SDDS442+X+++T	DIODE DS442 X
D155	SDGMA01+++++T	DIODE GMA01
D201	SDGMA01+++++T	DIODE GMA01
D302	SDDS442+X+++T	DIODE DS442 X
D401	SDDS442+X+++T	DIODE DS442 X
D402	SDDS442+X+++T	DIODE DS442 X
D403	SDDS442+X+++T	DIODE DS442 X
D404	SDDS442+X+++T	DIODE DS442 X
D405	SDDS442+X+++T	DIODE DS442 X

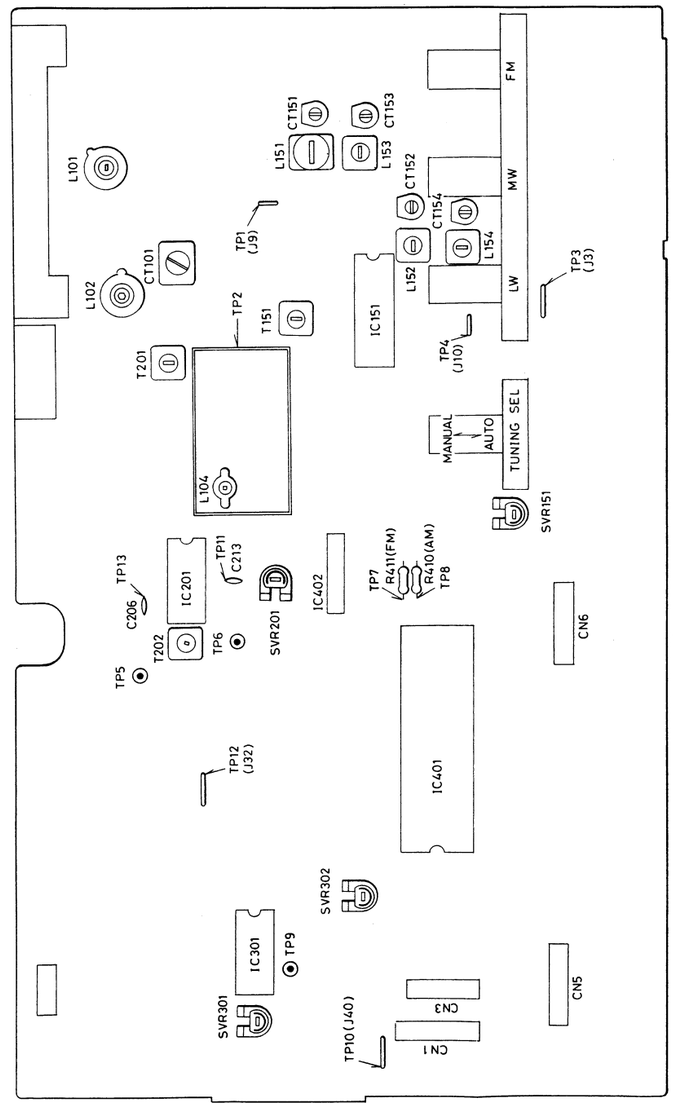
Ref. No.	Part No.	Description
D406	SDDS442+X+++T	DIODE DS442 X
D407	SDDS442+X+++T	DIODE DS442 X
D408	SDGMA01+++++T	DIODE GMA01
D901	SDGMA01+++++T	DIODE GMA01
D902	SDDS442+X+++T	DIODE DS442 X
D903	SDDS442+X+++T	DIODE DS442 X
C101	CC+50010CRSLF	CERAMIC 1PF 50V C R SL
C102	CC+50101KRSLF	CERAMIC 100PF 50V K R SL
C104	CC+50102KRYBF	CERAMIC 0.001MF 50V K R YB
C105	CC+50070CRSLF	CERAMIC 7PF 50V C R SL
C106	CC+50050CRSLF	CERAMIC 5PF 50V C R SL
C108	CC+50101KRSLF	CERAMIC 100PF 50V K R SL
C110	CC+50100DRCHF	CERAMIC 10PF 50V D R CH
C113	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C114	CC+50020CRCKF	CERAMIC 2PF 50V C R CK
C115	CC+50100DRCHF	CERAMIC 10PF 50V D R CH
C116	CC+50030CDYLS	CERAMIC 3PF 50V C D YL
C117	CC+50220JRCHF	CERAMIC 22PF 50V J R CH
C118	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C119	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C120	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C121	CC+50101KRSLF	CERAMIC 100PF 50V K R SL
C122	CC+50100DRSLF	CERAMIC 10PF 50V D R SL
C123	CC+50300KRSLF	CERAMIC 30PF 50V K R SL
C124	CC+50102KRYBF	CERAMIC 0.001MF 50V K R YB
C125	CC+50680KRSLF	CERAMIC 68PF 50V K R SL
C126	CC+50560KRSLF	CERAMIC 56PF 50V K R SL
C153	CB+25223MR++F	BC CON 0.022MF 25V M R
C154	CN100511JR++F	P P CON 510PF 100V J R
C155	CN100331JR++F	P P CON 330PF 100V J R
C156	CC+50180JDUJS	CERAMIC 18PF 50V J D UJ
C158	CC+50102KRYBF	CERAMIC 0.001MF 50V K R YB
C159	CB+25473MR++F	BC CON 0.047MF 25V M R
C160	CB+25223MR++F	BC CON 0.022MF 25V M R
C161	CB+25223MR++F	BC CON 0.022MF 25V M R
C162	CB+25473MR++F	BC CON 0.047MF 25V M R
C163	CB+25223MR++F	BC CON 0.022MF 25V M R
C164	CB+25103MR++F	BC CON 0.01MF 25V M R
C165	CB+25473MR++F	BC CON 0.047MF 25V M R
C166	CE+25475MRHAF	ELECT 4.7MF 25V M R HA F
C167	CE+25475MRHAF	ELECT 4.7MF 25V M R HA F
C168	CB+25473MR++F	BC CON 0.047MF 25V M R
C169	CC+50471KRYBF	CERAMIC 470PF 50V K R YB
C170	CE+16107MRHAF	ELECT 100MF 16V M R HA F
C171	CB+16103MA+YG	BC CON 0.01MF 16V M A Y
C172	CC+50102KRYBF	CERAMIC 0.001MF 50V K R YB
C173	CB+25332MR++F	BC CON 0.0033MF 25V M R
C174	CE+50224MRHAF	ELECT 0.22MF 50V M R HA F
C175	CE+16106MRHAF	ELECT 10MF 16V M R HA F
C176	CB+25223MR++F	BC CON 0.022MF 25V M R
C177	CC+50471KAYB+	CERAMIC 470PF 50V K A YB
C178	CB+25223MR++F	BC CON 0.022MF 25V M R
C179	CC+50680JDCHS	CERAMIC 68PF 50V J D CH
C180	CC+50560KRSLF	CERAMIC 56PF 50V K R SL
C181	CB+25223MR++F	BC CON 0.022MF 25V M R
C182	CC+50240JDXLS	CERAMIC 24PF 50V J D XL
C183	CB+25473MR++F	BC CON 0.047MF 25V M R
C184	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C201	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C202	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C203	CC+50223ZRYFF	CERAMIC 0.022MF 50V Z R YF
C204	CC+50223ZRYFF	CERAMIC 0.022MF 50V Z R YF
C205	CC+50223ZRYFF	CERAMIC 0.022MF 50V Z R YF
C206	CC+50221KRSLF	CERAMIC 220PF 50V K R SL
C207	CE+16106MRHAF	ELECT 10MF 16V M R HA F
C208	CE+25475MRHAF	ELECT 4.7MF 25V M R HA F
C209	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C210	CC+50223ZRYFF	CERAMIC 0.022MF 50V Z R YF
C211	CE+16107MRHAF	ELECT 100MF 16V M R HA F
C212	CC+50223ZRYFF	CERAMIC 0.022MF 50V Z R YF
C213	CC+50102KRYBF	CERAMIC 0.001MF 50V K R YB
C214	CE+50105MRHAF	ELECT 1MF 50V M R HA F
C216	CE+50104MRHAF	ELECT 0.1MF 50V M R HA F
C217	CC+50223ZRYFF	CERAMIC 0.022MF 50V Z R YF

PARTS LIST

Ref. No.	Part No.	Description
C220	CE+16L 06MRHAF	ELECT 10MF 16V M R HA F
C221	CC+504 31JRSLF	CERAMIC 430PF 50V J R SL S
C222	CE+16L 06MRHAF	ELECT 10MF 16V M R HA F
C301	CE+16L 06MRHAF	ELECT 10MF 16V M R HA F
C303	CE+16L 07MRHAF	ELECT 100MF 16V M R HA F
C304	CB+25L 03MR++F	BC CON 0.01MF 25V M R
C305	CB+25L 03MR++F	BC CON 0.01MF 25V M R
C306	CB+252 23MR++F	BC CON 0.022MF 25V M R
C308	CN100L 02JR++F	P P CON 1000PF 100V J R
C309	CE+504 74MRHAF	ELECT 0.47MF 50V M R HA F
C310	CE+501 05MRHAF	ELECT 1MF 50V M R HA F
C311	CE+501 05MRHAF	ELECT 1MF 50V M R HA F
C312	CE+501 05MRHAF	ELECT 1MF 50V M R HA F
C313	CE+501 05MRHAF	ELECT 1MF 50V M R HA F
C314	CB+252 22MR++F	BC CON 0.0022MF 25V M R
C315	CB+252 22MR++F	BC CON 0.0022MF 25V M R
C316	CC+505 61KRYBF	CERAMIC 560PF 50V K R YB
C317	CC+505 61KRYBF	CERAMIC 560PF 50V K R YB
C318	CB+251 52MR++F	BC CON 0.0015MF 25V M R
C319	CB+251 52MR++F	BC CON 0.0015MF 25V M R
C320	CE+50 105MRHAF	ELECT 1MF 50V M R HA F
C321	CE+50 105MRHAF	ELECT 1MF 50V M R HA F
C322	CE+50 105MRHAF	ELECT 1MF 50V M R HA F
C324	CC+50 102KRYBF	CERAMIC 0.001MF 50V K R YB
C325	CC+50 102MAYBG	CERAMIC 0.001MF 50V M A YB
C351	CE+50 224MRHAF	ELECT 0.22MF 50V M R HA F
C401	CC+50 150JRCHF	CERAMIC 15PF 50V J R CH
C402	CC+50 150JRCHF	CERAMIC 15PF 50V J R CH
C403	CC+50 102KRYBF	CERAMIC 0.001MF 50V K R YB
C404	CC+50 102KRYBF	CERAMIC 0.001MF 50V K R YB
C407	CE+50 225MRHAF	ELECT 2.2MF 50V M R HA F
C408	CE+50 105MRHAF	ELECT 1MF 50V M R HA F
C410	CA+16 154MV++S	AL ELECT 0.15MF 16V M V
C411	CB+25 103MR++F	BC CON 0.01MF 25V M R
C412	CB+25 103MR++F	BC CON 0.01MF 25V M R
C417	CC+50 223ZRYFF	CERAMIC 0.022MF 50V Z R YF
C418	CC+50 103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C422	CC+50 103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C425	CC+50 103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C428	4-223T-16100	CAPACITOR 0.1F 5.5V
C429	CE6R3 227MRHAF	ELECT 220MF 6.3V M R HA
C430	CB+16 103MA+YG	BC CON 0.01MF 16V M A Y
C431	CB+25 473MR++F	BC CON 0.047MF 25V M R
C432	CC+50 103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C433	CC+50 101JASL+	CERAMIC 100PF 50V J A SL
C434	CC+50 100DRSLF	CERAMIC 10PF 50V D R SL
C445	CC+50 103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C446	CC+50 103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C447	CC+50 103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C901	CE+16 227MRHAF	ELECT 220MF 16V M R HA F
C902	CE+50 225MRHAF	ELECT 2.2MF 50V M R HA F
C903	CE+16 226MRHAF	ELECT 22MF 16V M R HA F
R101	RC/+6104JT+++	CARBON T 100K OHM J 1/6W
R102	RC/+6100JT+++	CARBON T 10 OHM J 1/6W
R103	RC/+4103JT++R	CARBON T 10K OHM J 1/4W R25
R104	RC/+4103JT++R	CARBON T 10K OHM J 1/4W R25
R105	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R106	RC/+6824JT+++	CARBON T 820K OHM J 1/6W
R109	RC/+6103JT+++	CARBON T 10K OHM J 1/6W
R112	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R115	RC/+6684JT+++	CARBON T 680K OHM J 1/6W
R116	RC/+6272JT+++	CARBON T 2.7K OHM J 1/6W
R117	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R119	RC/+6221JT+++	CARBON T 220 OHM J 1/6W
R120	RC/+6222JT+++	CARBON T 2.2K OHM J 1/6W
R121	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R122	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R123	RC/+6104JT+++	CARBON T 100K OHM J 1/6W
R124	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R125	RC/+4392JT++R	CARBON T 3.9K OHM J 1/4W R25
R152	RC/+6273JT+++	CARBON T 27K OHM J 1/6W
R153	RC/+6273JT+++	CARBON T 27K OHM J 1/6W
R154	RC/+6101JT+++	CARBON T 100 OHM J 1/6W

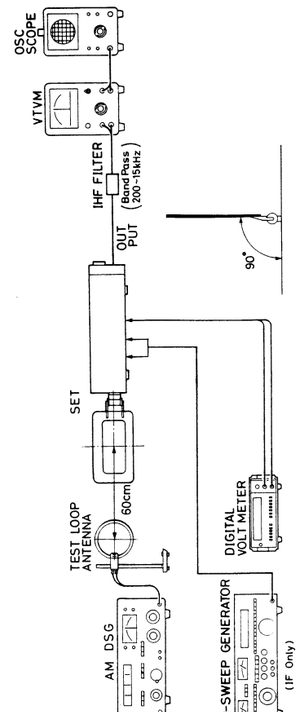
Ref. No.	Part No.	Description
R156	RC/+6182JT+++	CARBON T 1.8K OHM J 1/6W
R157	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R159	RC/+6332JT+++	CARBON T 3.3K OHM J 1/6W
R160	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R161	RC/+6103JT+++	CARBON T 10K OHM J 1/6W
R162	RC/+6103JT+++	CARBON T 10K OHM J 1/6W
R163	RC/+6221JT+++	CARBON T 220 OHM J 1/6W
R164	RC/+4103JT++R	CARBON T 10K OHM J 1/4W R25
R165	RC/+6562JT+++	CARBON T 5.6K OHM J 1/6W
R166	RC/+6562JT+++	CARBON T 5.6K OHM J 1/6W
R168	RC/+6332JT+++	CARBON T 3.3K OHM J 1/6W
R169	RF/+2121JSFP+	FP-CARBON S 120 OHM J 1/2W
R170	RC/+4821JT++R	CARBON T 820 OHM J 1/4W R25
R171	RC/+4333JT++R	CARBON T 33K OHM J 1/4W R25
R173	RC/+6221JT+++	CARBON T 220 OHM J 1/6W
R174	RC/+6221JT+++	CARBON T 220 OHM J 1/6W
R175	RC/+6333JT+++	CARBON T 33K OHM J 1/6W
R176	RC/+4333JT++R	CARBON T 33K OHM J 1/4W R25
R177	RC/+6103JT+++	CARBON T 10K OHM J 1/6W
R188	RC/+4333JT++R	CARBON T 33K OHM J 1/4W R25
R201	RC/+6561JT+++	CARBON T 560 OHM J 1/6W
R202	RC/+6102JT+++	CARBON T 1K OHM J 1/6W
R203	RC/+6224JT+++	CARBON T 220K OHM J 1/6W
R204	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R205	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R206	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R207	RC/+6273JT+++	CARBON T 27K OHM J 1/6W
R209	RC/+4183JT++R	CARBON T 18K OHM J 1/4W R25
R210	RC/+4103JT++R	CARBON T 10K OHM J 1/4W R25
R211	RC/+4104JT++R	CARBON T 100K OHM J 1/4W R25
R212	RC/+4124JT++R	CARBON T 120K OHM J 1/4W R25
R213	RF/+2820JSFP+	FP-CARBON S 82 OHM J 1/2W
R215	RC/+6103JT+++	CARBON T 10K OHM J 1/6W
R216	RC/+4563JT++R	CARBON T 56K OHM J 1/4W R25
R218	RC/+6562JT+++	CARBON T 5.6K OHM J 1/6W
R219	RC/+4104JT++R	CARBON T 100K OHM J 1/4W R25
R221	RC/+4473JT++R	CARBON T 47K OHM J 1/4W R25
R224	RC/+6223JT+++	CARBON T 22K OHM J 1/6W
R225	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R226	RC/+6562JT+++	CARBON T 5.6K OHM J 1/6W
R301	RC/+4151JT++R	CARBON T 150 OHM J 1/4W R25
R302	RC/+4472JT++R	CARBON T 4.7K OHM J 1/4W R25
R303	RC/+4472JT++R	CARBON T 4.7K OHM J 1/4W R25
R304	RC/+4223JT++R	CARBON T 22K OHM J 1/4W R25
R305	RC/+6682JT+++	CARBON T 6.8K OHM J 1/6W
R306	RC/+4102JT++R	CARBON T 1K OHM J 1/4W R25
R307	RC/+4103JT++R	CARBON T 10K OHM J 1/4W R25
R308	RC/+4822JT++R	CARBON T 8.2K OHM J 1/4W R25
R309	RC/+4822JT++R	CARBON T 8.2K OHM J 1/4W R25
R310	RC/+4822JT++R	CARBON T 8.2K OHM J 1/4W R25
R311	RC/+4822JT++R	CARBON T 8.2K OHM J 1/4W R25
R312	RC/+4564JT++R	CARBON T 560K OHM J 1/4W R25
R313	RC/+4564JT++R	CARBON T 560K OHM J 1/4W R25
R314	RC/+4222JT++R	CARBON T 2.2K OHM J 1/4W R25
R315	RC/+4222JT++R	CARBON T 2.2K OHM J 1/4W R25
R316	RC/+6271JT+++	CARBON T 270 OHM J 1/6W
R317	RC/+4271JT++R	CARBON T 270 OHM J 1/4W R25
R318	RC/+4104JT++R	CARBON T 100K OHM J 1/4W R25
R319	RC/+4104JT++R	CARBON T 100K OHM J 1/4W R25
R320	RC/+4332JT++R	CARBON T 3.3K OHM J 1/4W R25
R321	RC/+4332JT++R	CARBON T 3.3K OHM J 1/4W R25
R322	RC/+4822JT++R	CARBON T 8.2K OHM J 1/4W R25
R323	RC/+4103JT++R	CARBON T 10K OHM J 1/4W R25
R351	RC/+6224JT+++	CARBON T 220K OHM J 1/6W
R352	RC/+6101JT+++	CARBON T 100 OHM J 1/6W
R354	RC/+4104JT++R	CARBON T 100K OHM J 1/4W R25
R355	RC/+4104JT++R	CARBON T 100K OHM J 1/4W R25
R356	RC/+4331JT++R	CARBON T 330 OHM J 1/4W R25
R357	RC/+4473JT++R	CARBON T 47K OHM J 1/4W R25
R358	RC/+6332JT+++	CARBON T 3.3K OHM J 1/6W
R401	RC/+6472JT+++	CARBON T 4.7K OHM J 1/6W
R402	RC/+4822JT++R	CARBON T 8.2K OHM J 1/4W R25
R403	RC/+6472JT+++	CARBON T 4.7K OHM J 1/6W
R404	RC/+4822JT++R	CARBON T 8.2K OHM J 1/4W R25

PARTS LOCATION

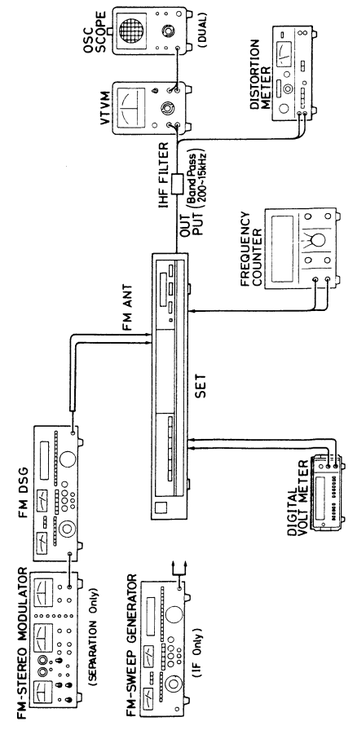


ADJUSTMENT CONNECTIONS

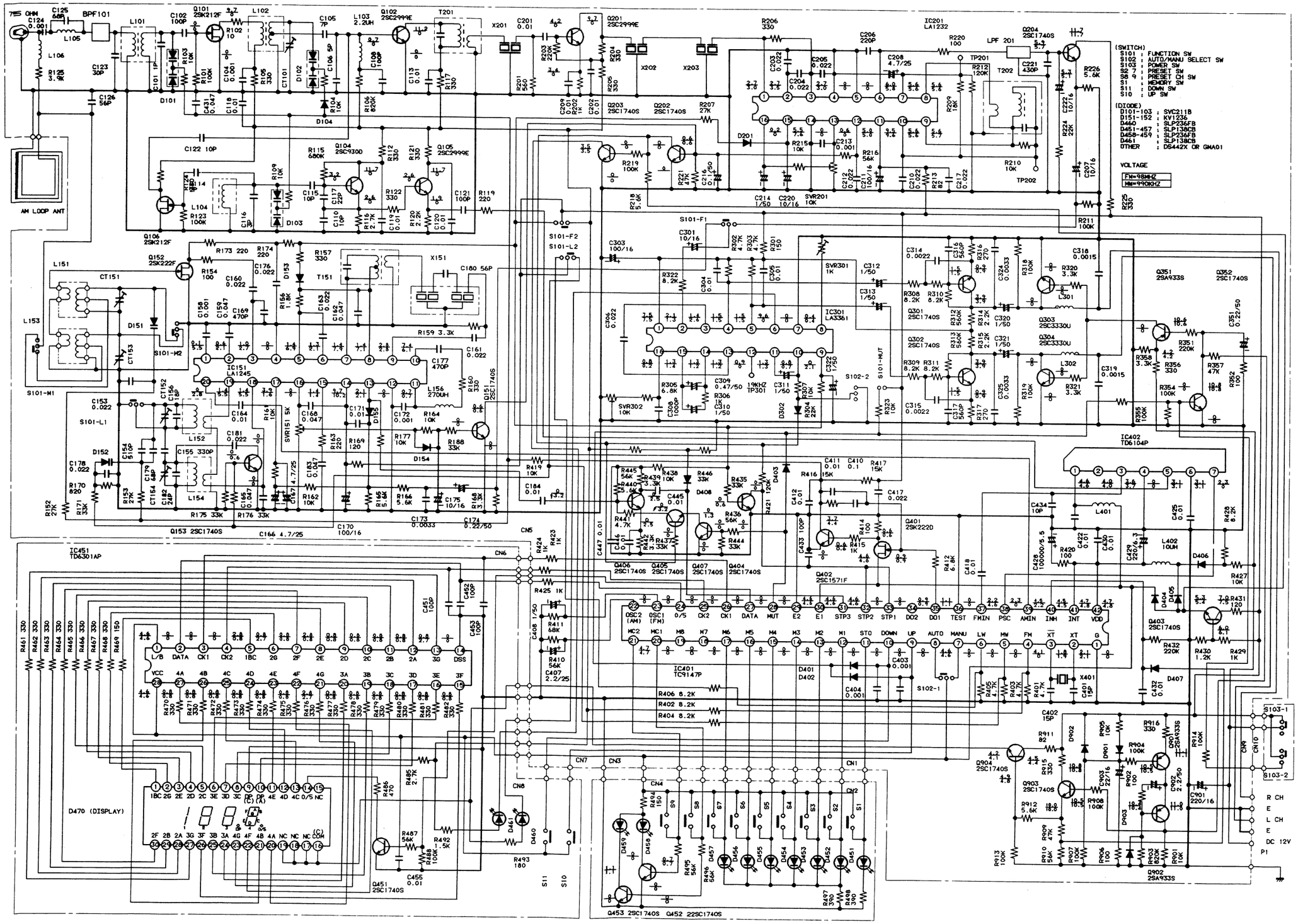
AM ADJUSTMENT CONNECTIONS

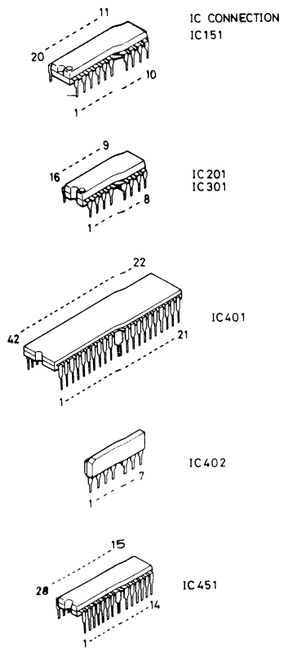


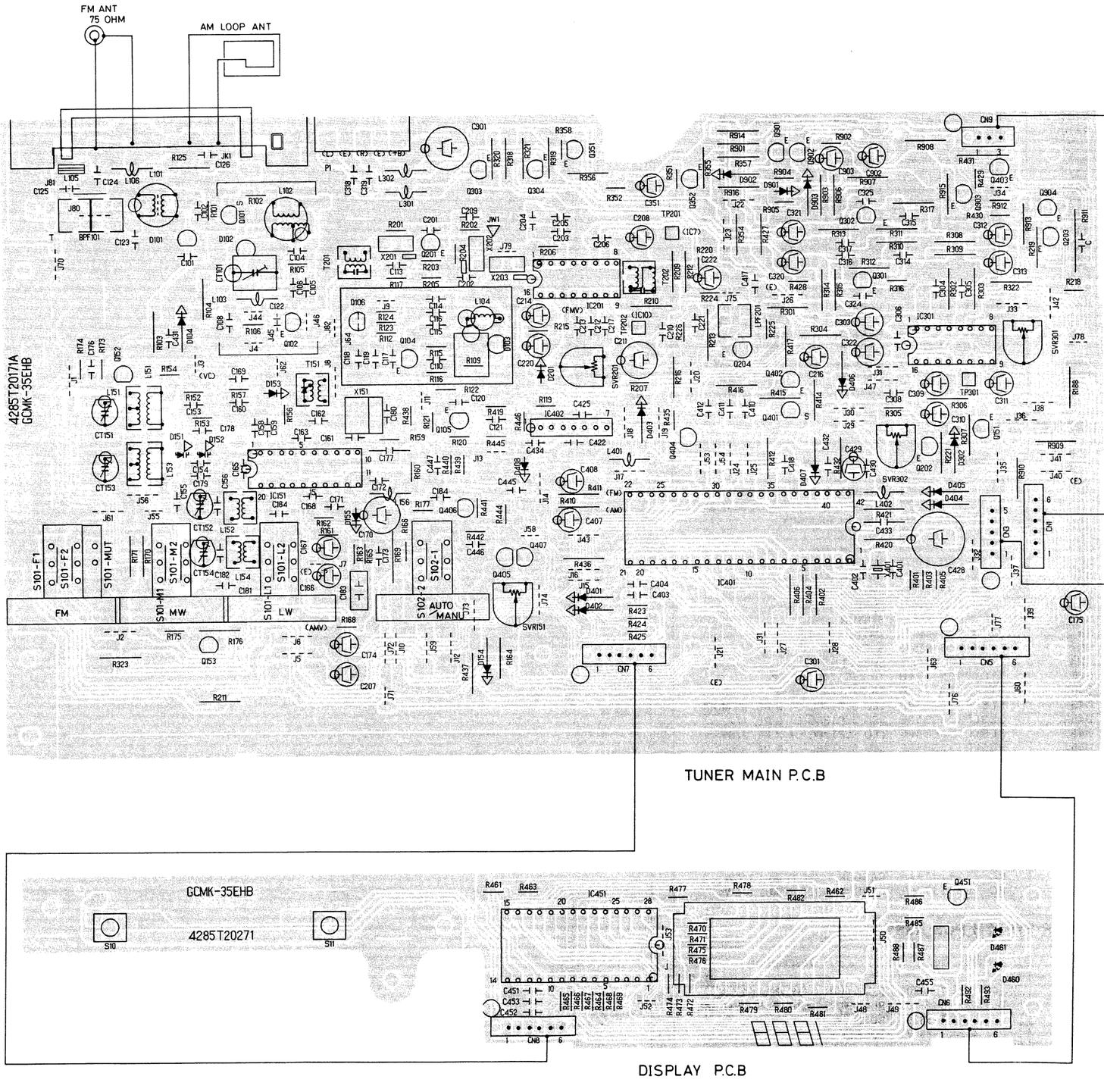
FM ADJUSTMENT CONNECTIONS

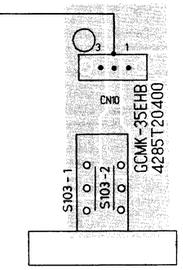


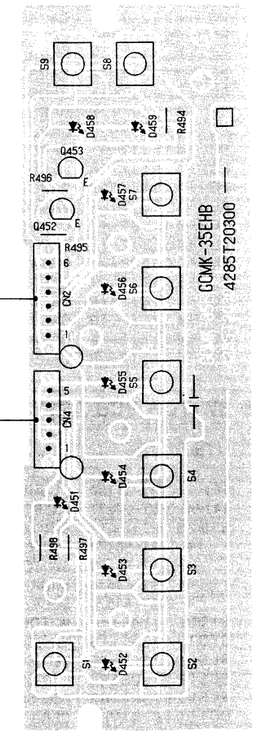
SCHEMATIC DIAGRAM



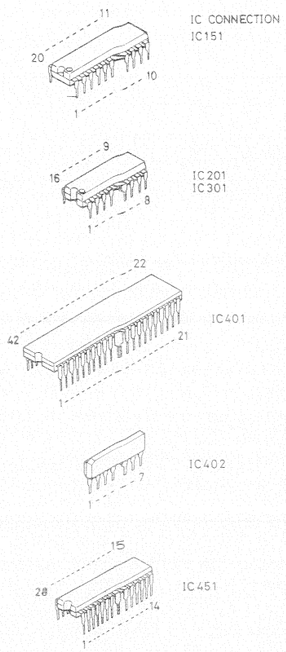

IC CONNECTION
IC151
IC201
IC301
IC401
IC402
IC451

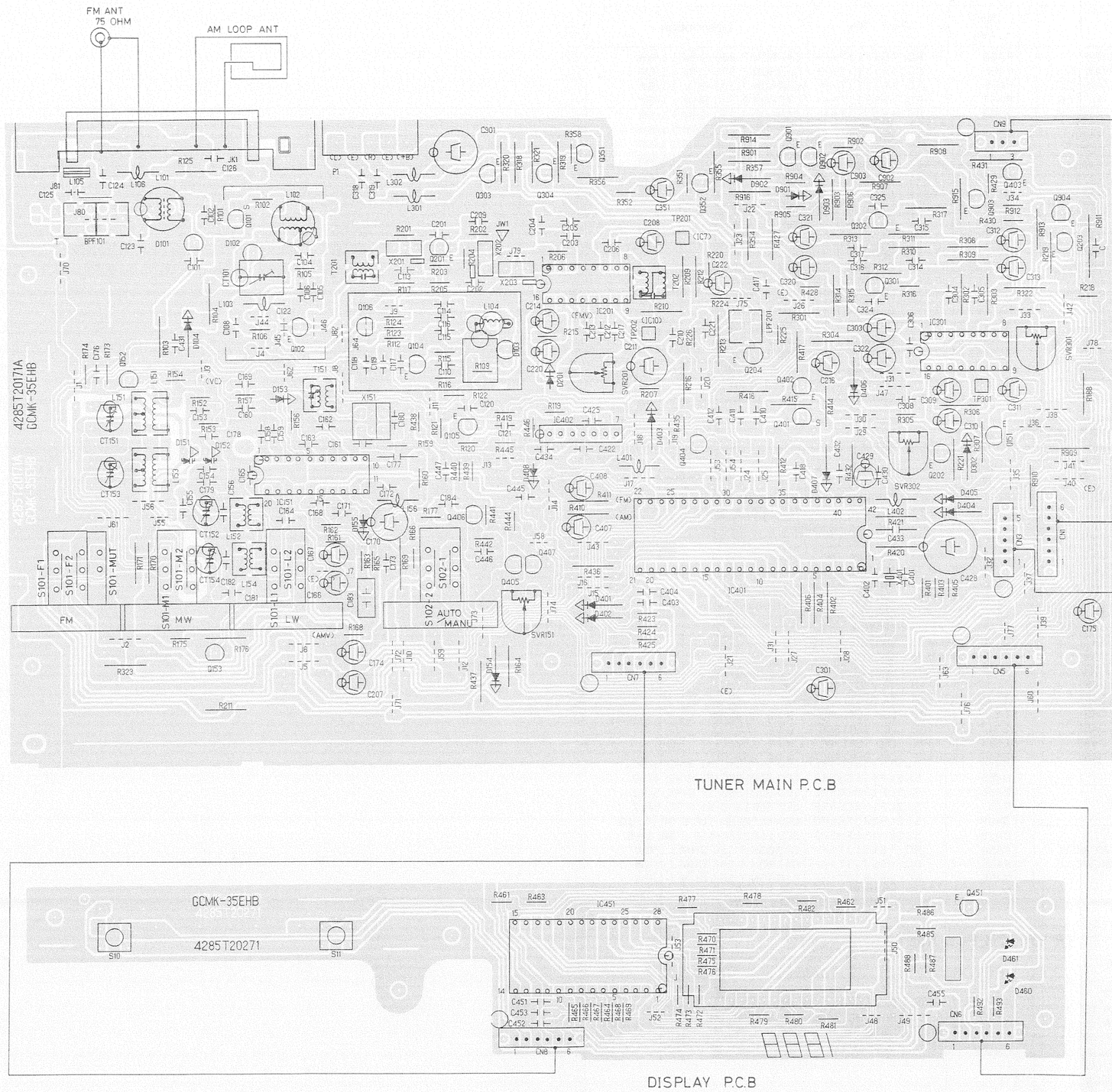

FM ANT
75 OHM
AM LOOP ANT
428ST20171A
GCMK-35EHB
S101-F1
S101-F2
S101-MUT
S101-M1
S101-M2
S101-L1
S101-L2
FM
MW
LW
S102-1
S102-2
AUTO
MANU
IC151
IC201
IC401
IC451
TUNER MAIN P.C.B


CN9
CN10
S103-1
S103-2
GCMK-35EHB
4285T20400
POWER SW P.C.B


GCMK-35EHB
4285T20300
PRE-SET P.C.B

GCMK-35EHB
4285T20271
S10
S11
IC451
DISPLAY P.C.B


IC CONNECTION
IC151
IC201
IC301
IC401
IC402
IC451


FM ANT
75 OHM
AM LOOP ANT
4285T20171A
GCMK-35EHB
S101-F1
S101-F2
S101-MUT
S101-M1
S101-M2
S101-L1
S101-L2
S102-1
S102-2
FM
MW
LW
AUTO
MANU
IC151
IC201
IC401
IC451
CN7
CN5
CN6
CN8
CN3
CN4
CN10
S103-1
S103-2
GCMK-35EHB
4285T20400
POWER SW P.C.B
GCMK-35EHB
4285T20300
PRE-SET P.C.B
TUNER MAIN P.C.B
GCMK-35EHB
4285T20271
S10
S11
DISPLAY P.C.B

PARTS LIST

Ref. No.	Part No.	Description
R405	RC/+6472JT+++	CARBON T 4.7K OHM J 1/6W
R406	RC/+4822JT++R	CARBON T 8.2K OHM J 1/4W R25
R410	RC/+4563JT++R	CARBON T 56K OHM J 1/4W R25
R411	RC/+4683JT++R	CARBON T 68K OHM J 1/4W R25
R412	RC/+4682JT++R	CARBON T 6.8K OHM J 1/4W R25
R414	RC/+4101JT++R	CARBON T 100 OHM J 1/4W R25
R415	RC/+4102JT++R	CARBON T 1K OHM J 1/4W R25
R416	RC/+4153JT++R	CARBON T 15K OHM J 1/4W R25
R417	RC/+4153JT++R	CARBON T 15K OHM J 1/4W R25
R419	RC/+6103JT+++	CARBON T 10K OHM J 1/6W
R420	RC/+4101JT++R	CARBON T 100 OHM J 1/4W R25
R421	RC/+4124JT++R	CARBON T 120K OHM J 1/4W R25
R423	RC/+6102JT+++	CARBON T 1K OHM J 1/6W
R424	RC/+6102JT+++	CARBON T 1K OHM J 1/6W
R425	RC/+6102JT+++	CARBON T 1K OHM J 1/6W
R427	RC/+4103JT++R	CARBON T 10K OHM J 1/4W R25
R428	RC/+6822JT+++	CARBON T 8.2K OHM J 1/6W
R429	RC/+6102JT+++	CARBON T 1K OHM J 1/6W
R430	RC/+6122JT+++	CARBON T 1.2K OHM J 1/6W
R431	RF/+2121JSF P+	FP-CARBON S 120 OHM J 1/2W
R432	RC/+4224JT++R	CARBON T 220K OHM J 1/4W R25
R435	RC/+6333JT+++	CARBON T 33K OHM J 1/6W
R436	RC/+4563JT++R	CARBON T 56K OHM J 1/4W R25
R437	RC/+4333JT++R	CARBON T 33K OHM J 1/4W R25
R438	RC/+6103JT+++	CARBON T 10K OHM J 1/6W
R439	RC/+6332JT+++	CARBON T 3.3K OHM J 1/6W
R440	RC/+6562JT+++	CARBON T 5.6K OHM J 1/6W
R441	RC/+6472JT+++	CARBON T 4.7K OHM J 1/6W
R442	RC/+6332JT+++	CARBON T 3.3K OHM J 1/6W
R444	RC/+6333JT+++	CARBON T 33K OHM J 1/6W
R445	RC/+6563JT+++	CARBON T 56K OHM J 1/6W
R446	RC/+6333JT+++	CARBON T 33K OHM J 1/6W
R901	RC/+4103JT++R	CARBON T 10K OHM J 1/4W R25
R902	RC/+6101JT+++	CARBON T 100 OHM J 1/6W
R903	RC/+4824JT++R	CARBON T 820K OHM J 1/4W R25
R904	RC/+6104JT+++	CARBON T 100K OHM J 1/6W
R905	RC/+6103JT+++	CARBON T 10K OHM J 1/6W
R906	RC/+4101JT++R	CARBON T 100 OHM J 1/4W R25
R907	RC/+4104JT++R	CARBON T 100K OHM J 1/4W R25
R908	RC/+4104JT++R	CARBON T 100K OHM J 1/4W R25
R909	RC/+4473JT++R	CARBON T 47K OHM J 1/4W R25
R910	RC/+4563JT++R	CARBON T 56K OHM J 1/4W R25
R911	RM++1820JS+++	METAL S 82 OHM J 1W
R912	RC/+6562JT+++	CARBON T 5.6K OHM J 1/6W
R913	RC/+4104JT++R	CARBON T 100K OHM J 1/4W R25
R914	RC/+4104JT++R	CARBON T 100K OHM J 1/4W R25
R915	RC/+4331JT++R	CARBON T 330 OHM J 1/4W R25
R916	RC/+4331JT++R	CARBON T 330 OHM J 1/4W R25

DISPLAY & SWITCH PCB ASSY

Ref. No.	Part No.	Description
	141-2-448T-11100	CUSHION
72	141-4-285T-20271	P.C.BOARD ASSY, DISPLAY & SW
	BJB2S++3+8+Z1	BIND HD 2 TAPPING SCREW 3X8
S10	4-238T-90173	SWITCH, UP
S11	4-238T-90173	SWITCH, DOWN
CN6	4-240T-83576	SOCKET 6P
CN8	4-240T-83576	SOCKET 6P
IC451	SITD6301AP+++	IC TD6301AP DIP28
Q451	STC1740S++++B	TR 2SC1740 S B SP
D460	SLSLP238FB5PG	LED SLP238F-51P B GR
D461	SLSLP138CB5RE	LED SLP138C-51 B RE
D470	SLSL2529K++GR	LED SL2529K GR (4DIGIT)
C451	CC+50101KAYBG	CERAMIC 100PF 50V K A YB
C452	CC+50101KAYBG	CERAMIC 100PF 50V K A YB
C453	CC+50101KAYBG	CERAMIC 100PF 50V K A YB
C455	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
R461	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R462	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R463	RC/+6331JT+++	CARBON T 330 OHM J 1/6W

Ref. No.	Part No.	Description
R464	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R465	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R466	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R467	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R468	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R469	RC/+6151JT+++	CARBON T 150 OHM J 1/6W
R470	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R471	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R472	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R473	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R474	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R475	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R476	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R477	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R478	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R479	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R480	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R481	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R482	RC/+6331JT+++	CARBON T 330 OHM J 1/6W
R485	RC/+6222JT+++	CARBON T 2.2K OHM J 1/6W
R486	RC/+6471JT+++	CARBON T 470 OHM J 1/6W
R487	RC/+6563JT+++	CARBON T 56K OHM J 1/6W
R488	RC/+6104JT+++	CARBON T 100K OHM J 1/6W
R492	RC/+6152JT+++	CARBON T 1.5K OHM J 1/6W
R493	RC/+6181JT+++	CARBON T 180 OHM J 1/6W

PRE-SET PCB ASSY

Ref. No.	Part No.	Description
73	141-4-285T-20301	P.C.BOARD ASSY, PRE-SET
	BJB2S++3+8+Z1	BIND HD 2 TAPPING SCREW 3X8
S1	4-238T-84673	SWITCH, MEMORY
S2	4-238T-84673	SWITCH, 1/7
S3	4-238T-84673	SWITCH, 2/8
S4	4-238T-84673	SWITCH, 3/9
S5	4-238T-84673	SWITCH, 4/10
S6	4-238T-84673	SWITCH, 5/11
S7	4-238T-84673	SWITCH, 6/12
S8	4-238T-84673	SWITCH, 1~6
S9	4-238T-84673	SWITCH, 7~12
CN2	4-240T-83576	SOCKET 6P
CN4	4-240T-83575	SOCKET 5P
Q452	STC1740S++++B	TR 2SC1740 S B SP
Q453	STC1740S++++B	TR 2SC1740 S B SP
D451	SLSLP138CB5RE	LED SLP138C-51 B RE, MEMORY
D452	SLSLP138CB5RE	LED SLP138C-51 B RE, 1/7
D453	SLSLP138CB5RE	LED SLP138C-51 B RE, 2/8
D454	SLSLP138CB5RE	LED SLP138C-51 B RE, 3/9
D455	SLSLP138CB5RE	LED SLP138C-51 B RE, 4/10
D456	SLSLP138CB5RE	LED SLP138C-51 B RE, 5/11
D457	SLSLP138CB5RE	LED SLP138C-51 B RE, 6/12
D458	SLSLP238FB5PG	LED SLP238F-51P B GR, 7~12
D459	SLSLP238FB5PG	LED SLP238F-51P B GR, 1~6
R494	RC/+6151JT+++	CARBON T 150 OHM J 1/6W
R495	RC/+6563JT+++	CARBON T 56K OHM J 1/6W
R496	RC/+6563JT+++	CARBON T 56K OHM J 1/6W
R497	RC/+6391JT+++	CARBON T 390 OHM J 1/6W
R498	RC/+6391JT+++	CARBON T 390 OHM J 1/6W

POWER SWITCH PCB ASSY

Ref. No.	Part No.	Description
74	141-4-285T-20400	P.C.BOARD ASSY, POWER SW
	BJB2S++3+8+Z1	BIND HD 2 TAPPING SCREW 3X8
S3	4-238T-83100	PUSH SWITCH, POWER
CN10	4-240T-83573	SOCKET 3P

MEMO

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